

## CLAIMS

**What is claimed is:**

1. A remote control device, comprising:  
a processor; and  
at least first and second sensors operatively configured to provide position information of at least first and second points, respectively, on the remote control device, the position information being sufficiently accurate to distinguish the first point from the second point, such that the provided position information of the first point with respect to the position information of the second point provides enough information to the processor to determine yaw, pitch, horizontal and vertical translation motions of the remote control device with respect to a terrestrial plane.

2. The remote control device of claim 1, wherein said at least first and second sensors include first and second antennas, and a differential GPS receiver.

3. The remote control device of claim 2, wherein the first antenna operating with the differential GPS receiver provides the position information of the first point to the processor.

4. The remote control device of claim 2, wherein the second antenna operating with the differential GPS receiver provides the position information of the second point to the processor.

5. The remote control device of claim 1, wherein the processor includes a motion converter that converts the position information of the first and second points into the yaw, pitch, horizontal and vertical translation motions of the remote control device with respect to the terrestrial plane.

6. The remote control device of claim 1, wherein the processor includes a cursor movement converter that converts the processed yaw, pitch, horizontal and vertical translation motions into a cursor movement on a screen.

7. The remote control device of claim 6, further comprising:

a transceiver configured to transmit the processed cursor movement to an external device and to receive commands or messages from the external device.

8. The remote control device of claim 7, wherein the external device is a computer.

9. The remote control device of claim 7, wherein the external device is a television.

10. The remote control device of claim 6, wherein said at least first and second sensors include relative sensors that measure position information of the remote control device with respect to a fixed position on the screen

11. The remote control device of claim 1, further comprising:

a local display configured to display local information.

12. The remote control device of claim 11, wherein the local information includes a cursor movement offset.

13. A remote control device, comprising:  
at least first and second antennas; and  
at least one global positioning system (GPS) receiver including a processor, said at least one GPS receiver coupled to said at least first and second antennas, said at least one GPS receiver configured to operate in a differential mode so that position information of the first and second antennas is provided sufficiently accurate to distinguish position of the first antenna from position of the second antenna,

wherein said at least first and second antennas are configured such that the provided position information of the first antenna with respect to the second antenna provides enough information for the processor to determine yaw, pitch, horizontal and vertical translation motions of the remote control device with respect to a terrestrial plane.

14. The remote control device of claim 13, wherein the processor includes a motion converter that converts the position information of the first and second antennas into the yaw, pitch, horizontal and vertical translation motions of the remote control device with respect to the terrestrial plane.

15. The remote control device of claim 13, wherein the processor includes a cursor movement converter that converts the processed yaw, pitch, horizontal and vertical translation motions into a cursor movement on a screen.

16. The remote control device of claim 15, further comprising:

a transceiver configured to transmit the processed cursor movement to an external device and to receive commands or messages from the external device.

17. The remote control device of claim 13, further comprising:

a local display configured to display local information.

18. The remote control device of claim 17, wherein the local information includes estimated motions of the remote control device.

19. A method for controlling a graphical icon on a screen using a remote control device, comprising:

determining position information of at least two points on the remote control device sufficiently accurate to distinguish the two points;

resolving the position information into yaw, pitch, horizontal and vertical translation motions; and

converting the yaw, pitch, horizontal and vertical translation motions into movement information of the graphical icon.

20. The method of claim 19, further comprising:

transmitting the movement information to the screen to appropriately move the graphical icon.